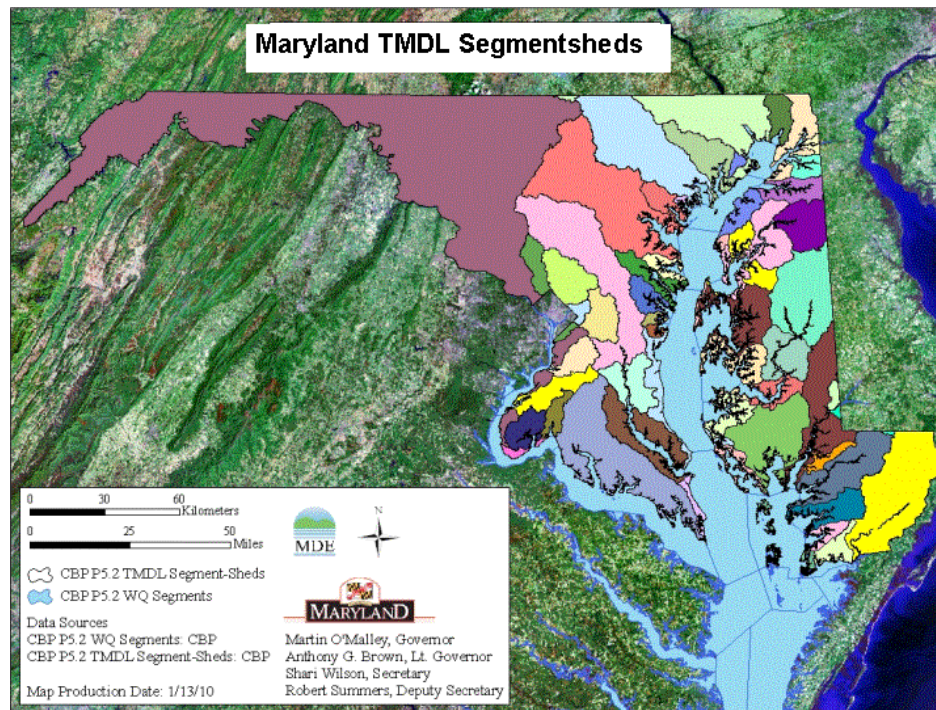


Maryland Chesapeake Bay TMDL Watershed Implementation Plan



October 13, 2010 – Annapolis

Draft Plan Orientation

Eight Elements

1. Interim and Final Nutrient and Sediment Target Loads
2. Current Baseline Loading and Program Capacity
3. Account for Growth
4. Gap Analysis
- 5. Commitment & Strategy to Fill Gaps - "Options"**
6. Tracking and Reporting Protocols
- 7. Contingencies** To Be Determined based on Public Review
8. Appendix with Detailed Targets and Schedule

Setting Allocations

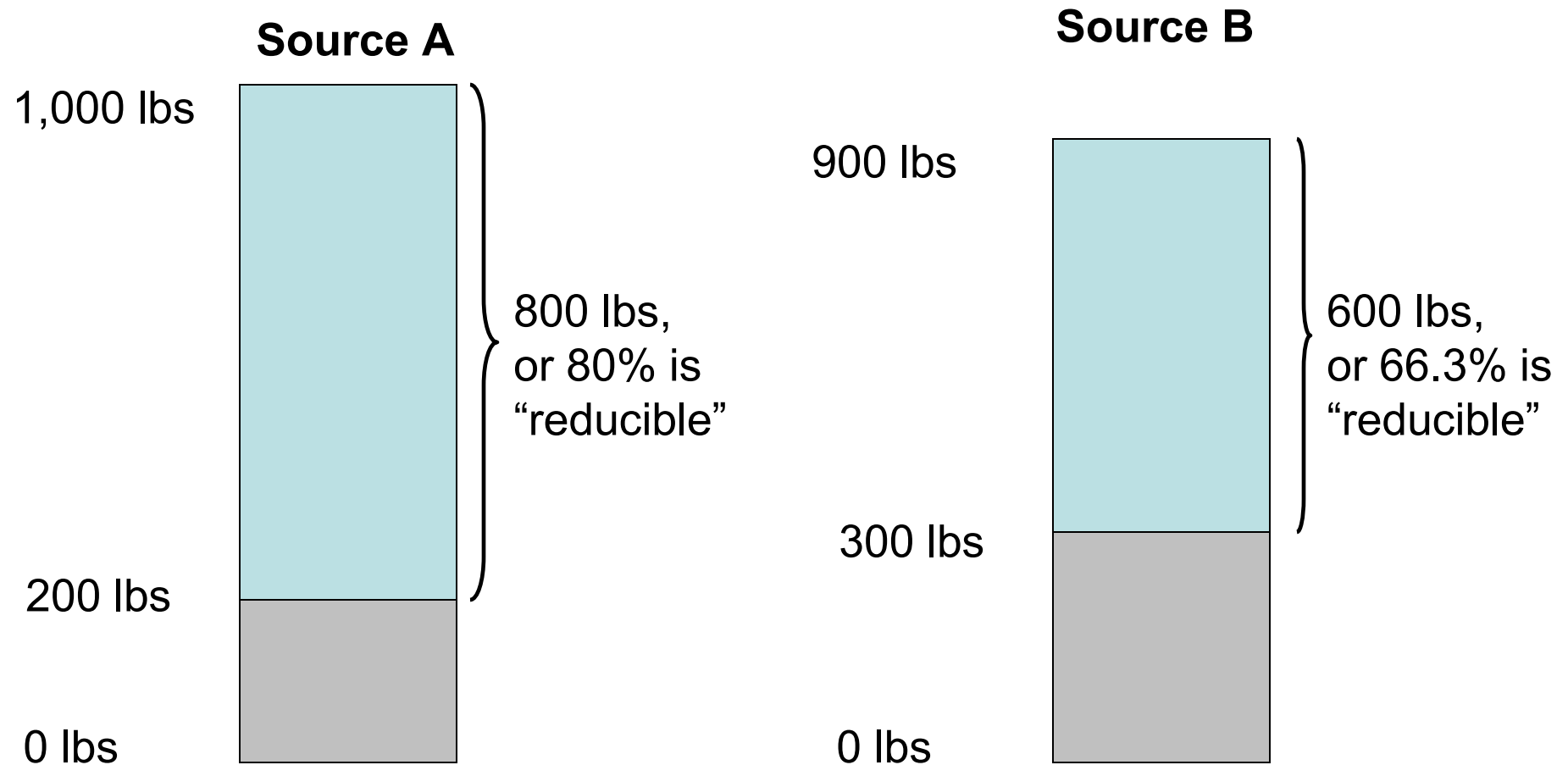
“Final Target Loads” – By 2020

- Based on Objective Allocation Method:
 - Unbiased for or against any sector
 - Set Point Source Loads to Tributary Strategy Caps*
 - Set Nonpoint Sources to:
 - “Equal percent reduction of *Reducible Load*”
 - Credit given for past reductions

* Approximately

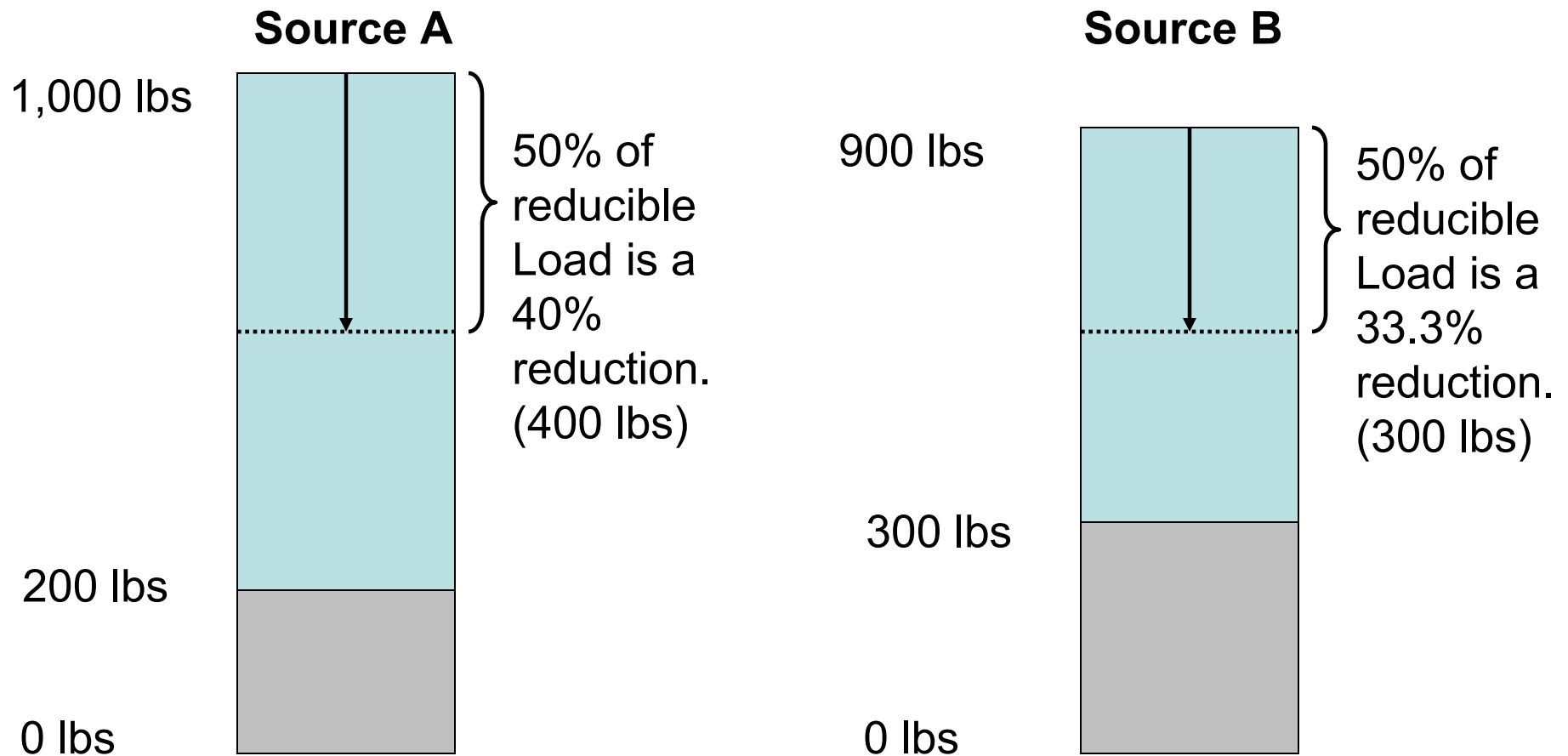
Equitable Allocation Method

Example:



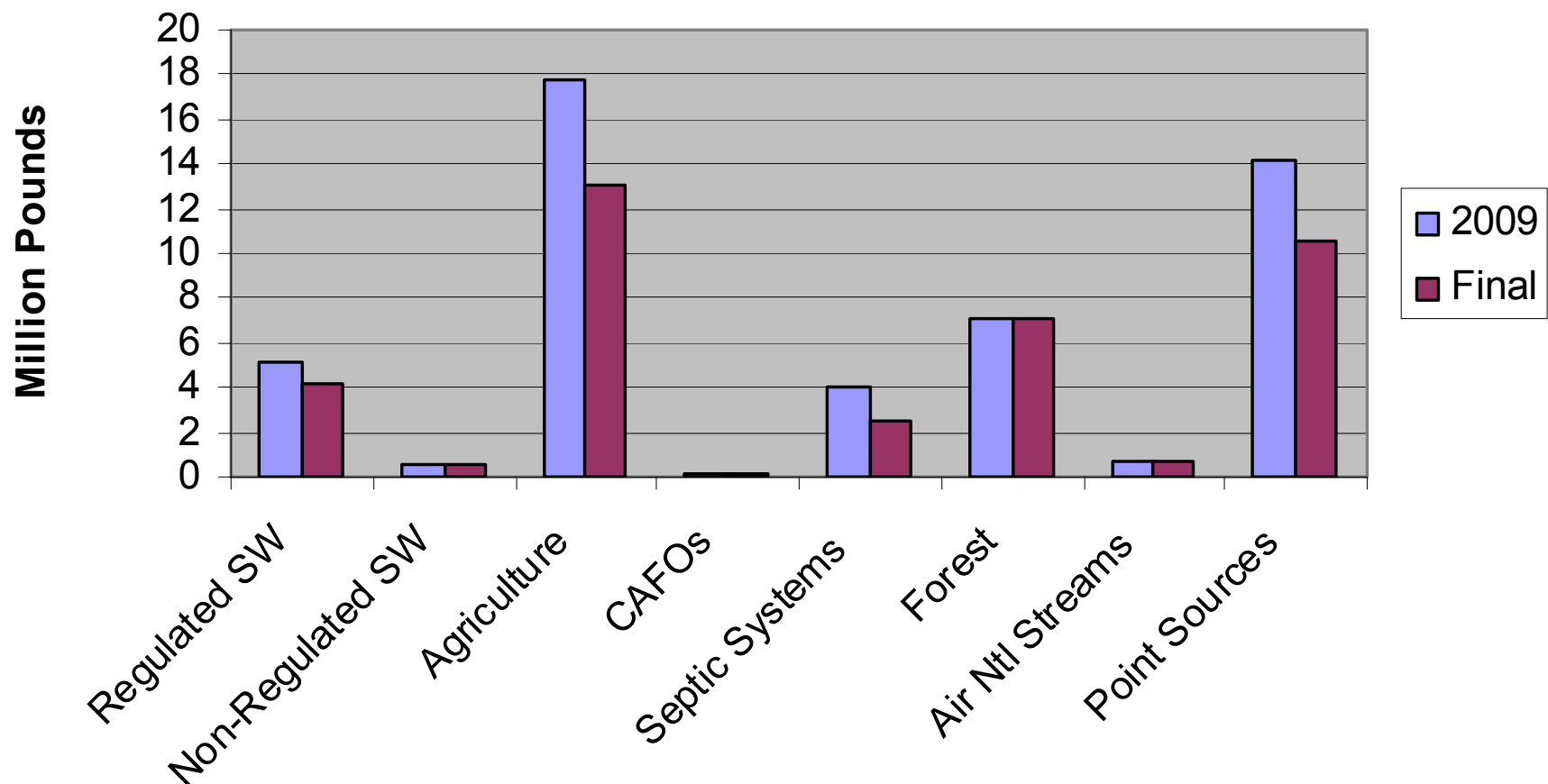
Equitable Allocation Method

Example: 50% of Reducible Load...



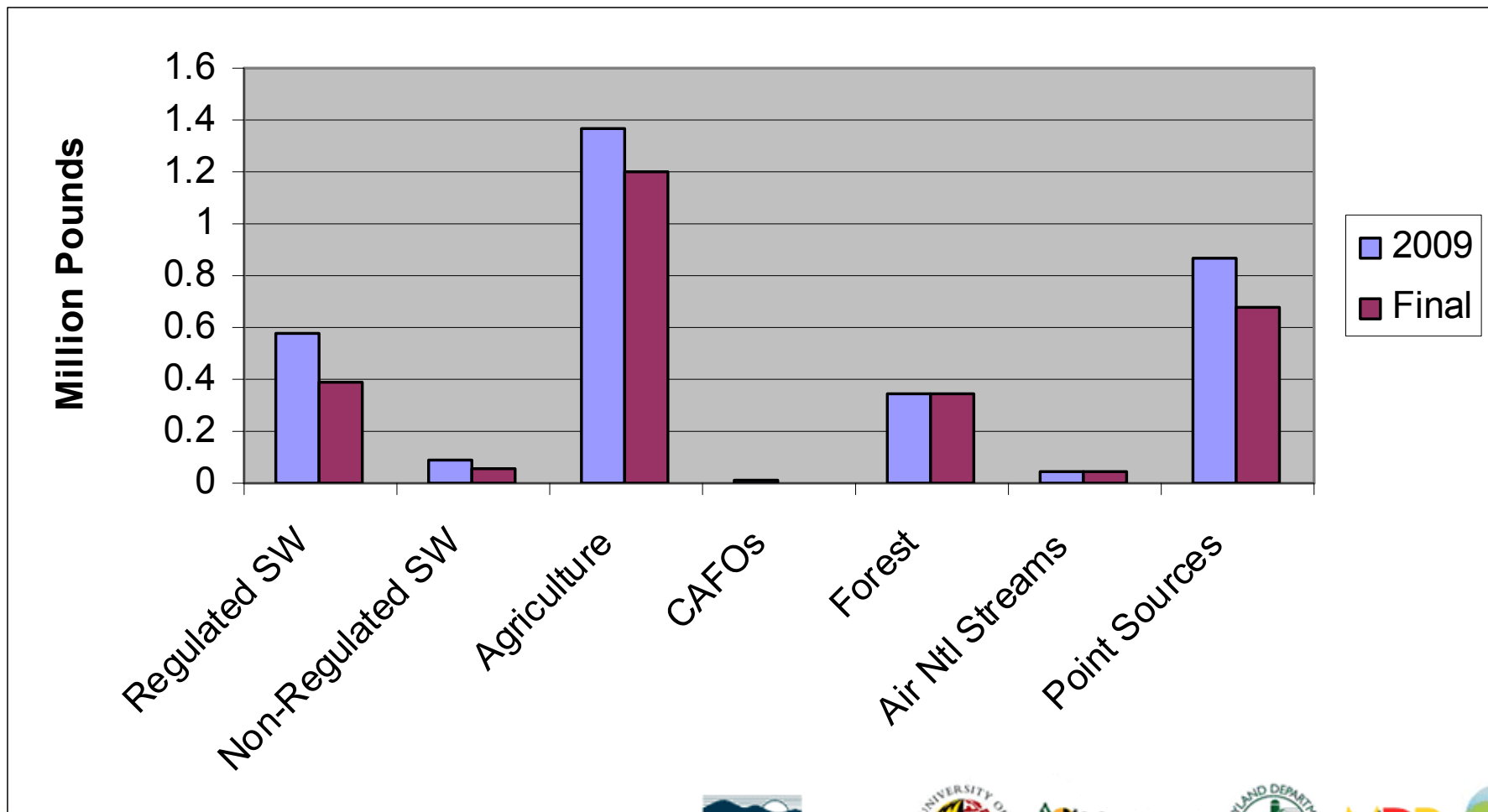
Final Target Loads

2009 vs Final Target for **Nitrogen** by Sector:



Final Target Loads

2009 vs Final Target for **Phosphorus** by Sector:



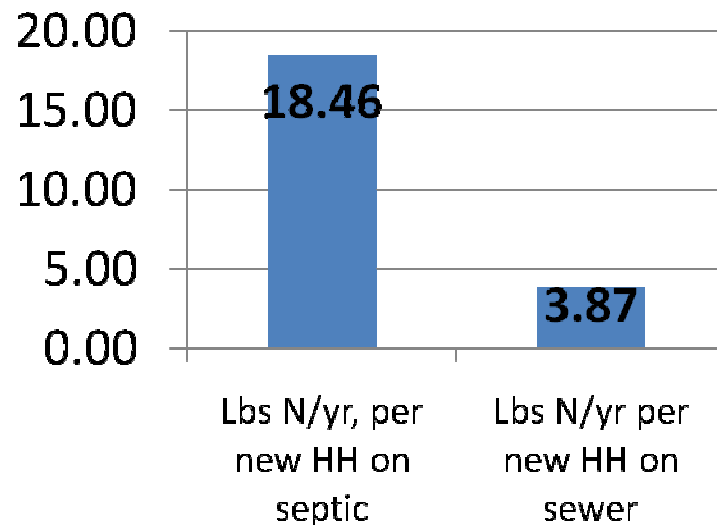


Accounting for Growth in Loads

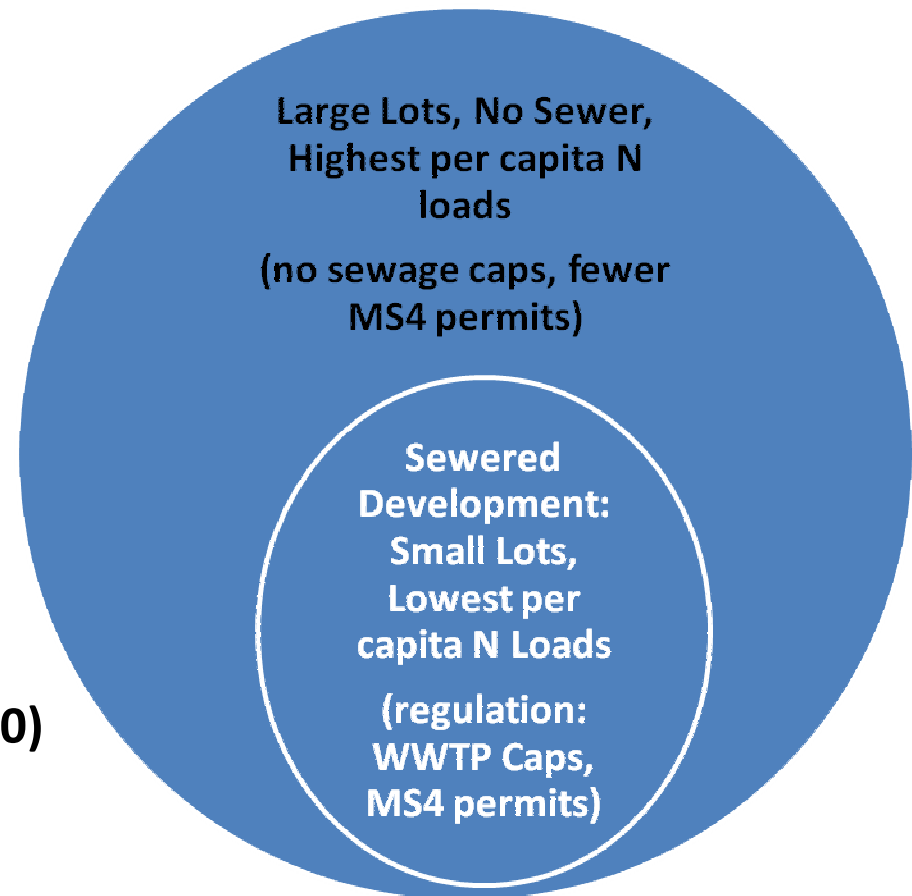
1. Power Plant Atmos. Cap Strategy (In Place)
2. Wastewater Cap Strategy (In Place)
3. EPA requirement to Offset NPS Loads:
 - a. Loads from New Land Development
 - b. Loads from New Septic Systems



Accounting for Growth in Loads



**263,225 Additional Households
Forecasted in Maryland (2010 -2020)**
29% served by septic tanks
71% served by ENR WWTP



Offsetting New Loads

- Approach is Outlined in the Plan:
 - Has Incentives to Promote Smart Growth
 - Proposes Three Types of Geographic Areas:
 - Low load/capita (dense development areas)
 - Intermediate load/capita
 - High load/capita (low density areas)
 - Offsets tighter in lower density areas
- Option for Local Alternative Approach
- Schedule Envisions 2013 Implementation
- Trading System is Essential Element
 - Similar to system for Wetlands Mitigation

Interim Target by 2017

Highlights of Proposed Strategy Options:

- WWTPs
 - Complete ENR Upgrades for Major Municipal Plants
 - Upgrade Several of the Largest Minor Municipal Plants to ENR
 - Reductions for minor industrial plants
- Septic Systems
 - Offset Future Septic System Loads
 - Connect Failing Systems to WWTPs
 - Range of options for upgrading septic systems
- Stormwater
 - Offset Loads from New Development
 - Range of options for retrofitting old developed lands including Phase II permits and non-MS4 jurisdictions.
 - Increase urban nutrient management



Strategy Option Highlights (Con't)

- Agriculture
 - Manure Incorporation to Reduce Ammonia Emissions
 - Precision Agriculture to Optimize Fertilizer Use
 - Numerous other options
- Natural Filters
 - Range of Options on Private and Public Lands
- Atmospheric Sources
 - Implement State Healthy Air Act
 - Implement federal Clean Air Act
 - Various vehicle emissions options

Finalizing Phase I Plan

Public Stakeholder Process:

- Sept. 1: Preliminary Draft Released to Public
- Sept. 24: Final Draft Released for Public Review
 - Comments Due November 8
- Sept. 27 – Oct. 6: Four Public Meetings
- Oct. 12, 13, & 14: Three EPA Public Meetings
- Oct. 18: Stakeholder Advisory Committee (SAC) Meeting
- Late October: SAC Presents comments to Maryland Bay Cabinet
- Incorporate Public Comments by Nov. 29

Finalizing Phase I Plan (Con't)

Anticipated Plan Revisions:

- Finalize Interim and Final Targets:
 - Supported by EPA Model validation
 - Subject to revision in Phase II
- Select Strategies for 2017 Interim Target (Chapter 5):
 - Starting point for Phase II Dialogue
- Provide Cost Estimates (Chapter 5)
- Provide Timelines for Implementation (Chapter 5):
 - Planning Steps
 - Legislative & Regulatory milestones
 - Implementation Target Date
- Identify Contingencies (Chapter 7)
- More Detail on Verification of Implementation



Comments on Phase I

- Submit Comments on WIP in Writing electronically to:

TMDLCoordinator@mde.state.md.us

... or by mail to:

Tom Thornton

Maryland Department of the Environment

1800 Washington Boulevard – Suite 540

Baltimore MD 21230-1718

- Suggestions for Comments:
 - **Strategy Options:** Focus on most and least desirable options.
 - **Allocations:** Are they “reasonable?” If not, suggest changes.
 - **Funding Recommendations**



Phase II Process

Overview

- Intent of Plan:
 - Set Planning-Level Target Loads for Implementation
 - More Geographic Detail of Target Loads
 - Opportunity to Revise Phase I TMDL Allocations
 - More Implementation Detail
 - Opportunity to Revise the Strategies
 - Provide consistent context for local watershed planning
- Timeline for Phase II Plan:
 - June 1, 2011: Draft
 - June – Nov:
 - Model Verification
 - Public Review
 - Plan Revision
 - November 1, 2011: Final

Phase II Process (Con't)

- General Approach
 - State “Liaisons”
 - State Steering Committee
 - Identify & Invite Stakeholders – Local Leads
 - Step-by-Step Schedule
 - Support Materials, e.g., WIP Document Template
 - Request Essential Local Information
 - **Discuss & Refine Strategies and Target Loads**
 - Reach Consensus, Use State Default or Hybrid
 - Identify 2-yr Milestones by end of 2011

Phase II Process (Con't)

- 2011 Schedule
 - **December:** Regional Orientation Meetings
 - **January:** Initial Working Meetings
 - **Feb/March:** Initiate Allocation Discussions
 - **April/May:** Finalize Allocation & Strategy Discussions
Wrap-up Draft Phase II Plans
 - **June 1:** Submit Draft Plan to EPA
 - **June:** Confirmation Model Runs (if necessary)
 - **July:** Revise/Adjust Draft Plans
 - **August:** Public Review
 - **September:** Finalize Documentation
 - **November 1:** Submit Final Plan to EPA



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